

## A MYRMECOPHILOUS COCKROACH NEW TO THE UNITED STATES (BLATTARIA: POLYPHAGIDAE)<sup>1</sup>

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**ABSTRACT:** *Myrmecoblatta wheeleri* Hebard is reported from the nest of *Camponotus abdominalis floridanus* (Buckley) in Highlands County, Florida. Previous records are from Costa Rica and Guatemala. *M. wheeleri* is probably one of a number of examples of Florida species whose nearest relatives occur in xeric Neotropical areas.

In the course of a survey of the ant fauna of the Archbold Biological Station in Highlands County, Florida, a colony of myrmecophilous cockroaches was discovered in a nest of *Camponotus abdominalis floridanus* (Buckley). We have determined that these specimens represent *Myrmecoblatta wheeleri* Hebard, a species previously known from Guatemala and Costa Rica (Fisk et al., 1976). The Florida specimens have been compared with Costa Rican specimens, which had been compared with the types from Guatemala. The male genitalia of a Florida specimen appear identical to those of a Costa Rican specimen. Both sexes of the Florida specimens are slightly smaller than their Costa Rican counterparts.

This species (Fig. 1) cannot be confused with any other U.S. cockroach. The only other myrmecophilous cockroach in the U.S. is the southwestern *Attaphila fungicola* Wheeler, which can be distinguished by its small size (under 3 mm), unsegmented cerci, broadly expanded tibiae, and large arolia between the tarsal claws (Helfer, 1953, Fisk et al., 1976). The only other species of *Myrmecoblatta* is *M. rehni* Mann, a Mexican species that can be distinguished by the non-truncate oval tegmina of the male (Fisk et al., 1976).

The biology of *M. wheeleri* remains almost unknown. The Florida specimens were found beneath a dead slash pine log in a scrubby flatwoods habitat. At least 20 roaches of all sizes were visible when the log was turned over. Ant crickets (*Myrmecophila* sp.) occurred in the same ant nest. The ants made no attempt to seize or carry off the cockroaches, but carried off brood to underground chambers. The cockroaches did not follow this rush to underground chambers, but concealed themselves under bits of bark and in cracks in the dead tree. The cockroaches can run rapidly and can also

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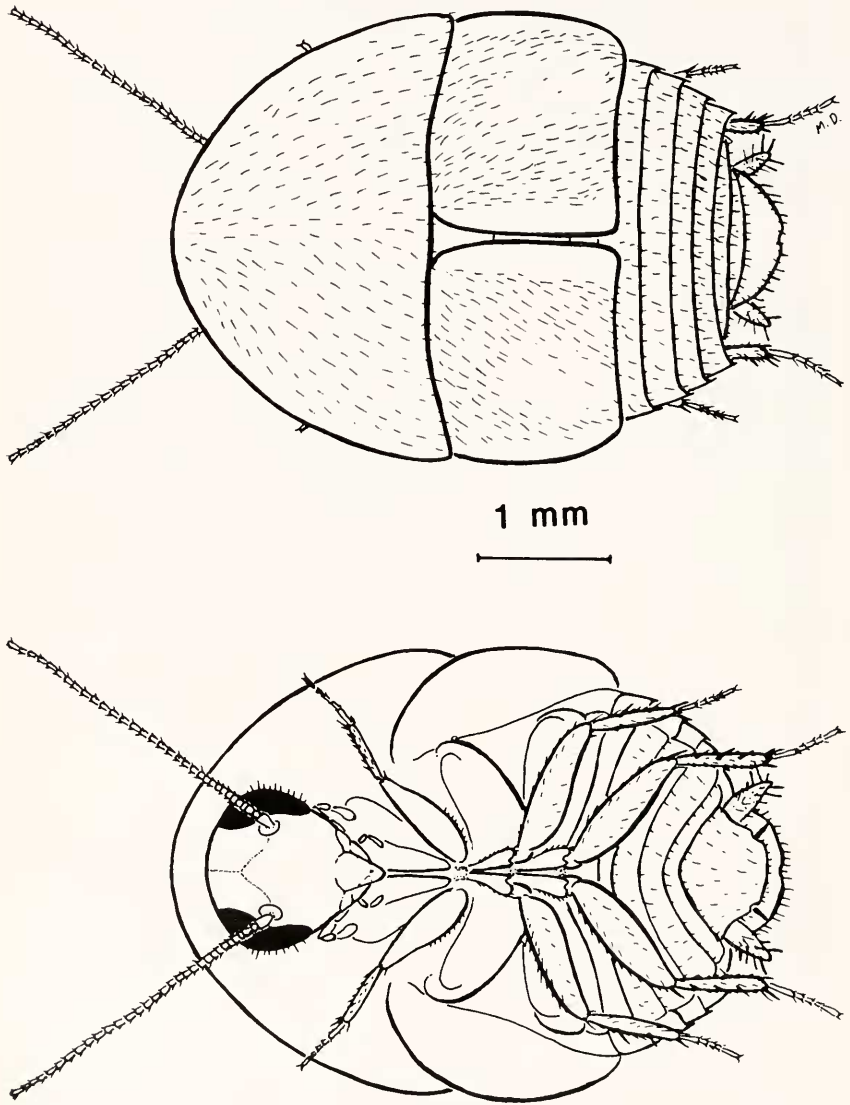


Fig. 1 *Myrmecoblatta wheeleri*, male.

withdraw their appendages underneath the body and adhere tightly to the substrate. The legs, antennae, and cerci of specimens examined are generally intact, showing no evidence of attacks by ants. There are no obvious tufts or glands that might produce secretions favored by ants, though the male cockroaches have a pair of obscure glands hidden under the third abdominal tergum. There are, in fact, no obvious morphological features that do not occur in various free-living roaches. The Costa Rican specimens are also from a nest of *Camponotus abdominalis*, while the Guatemalan type series is from a nest of *Solenopsis geminata* (Fabricius) (Fisk et al., 1976). *Myrmecoblatta rehni* Mann occurs in nests of both *Camponotus* sp. and *Formica* sp. (Fisk et al., 1976). There is, therefore, little evidence of strict host specificity in *Myrmecoblatta*.

We believe that *M. wheeleri* is native in south Florida in spite of the great distance from the nearest previously reported population. There is relatively small chance that a population of this species would be accidentally transported to Florida, become established, and remain undiscovered in the heavily collected coastal areas but rather turn up in a remote area of the interior of the state. There is good evidence that xeric habitats once extended around the Gulf of Mexico, providing a corridor to the Southeast for representatives of certain southwestern orthopteroid genera, such as *Arenivaga*, *Mantoida*, *Aptenopedes*, *Gymnoscirtetes*, and *Eotettix* (Hubbell, 1961). *Camponotus abdominalis floridanus* is itself an isolated population of a Neotropical species; the nearest population is *C. abdominalis transvectus* Wheeler, found some 500 miles away in southern Texas (Creighton, 1950). Among the ant inquilines of central Florida is also a recently discovered undescribed species of the histerid genus *Terapus*, whose nearest known relatives are in Mexico (Hinton, 1934).

Specimens of *M. wheeleri* are deposited in the collection of Dr. Frank Fisk (Columbus, Ohio), the collection of the Archbold Biological Station (Lake Placid, Florida), and the Florida State Collection of Arthropods (Gainesville, Florida).

#### LITERATURE CITED

- Creighton, W. C. 1950. The ants of North America. Bull. Mus. Comp. Zool. 104:1-585.
- Fisk, F. W., Vargas, M., and Fallas, F. 1976. Notes on *Myrmecoblatta wheeleri* from Costa Rica (Blattaria: Polyphagidae). Proc. Entomol. Soc. Wash., 8:317-322.
- Helfer, J. R. 1953. How to know the grasshoppers, cockroaches and their allies. Wm. C. Brown Co., Dubuque, Iowa. 353 + v pp.
- Hinton, H. E. 1934. New species of *Terapus* from North America (Histeridae: Coleoptera). Entomol. News 45:270-272.
- Hubbell, T. H. 1961. Endemism and speciation in relation to Pleistocene changes in Florida and the southeastern coastal plain. Proc. Int. Congr. Entomol. (Wein, 1960) 11:466-469.